

AMENDED CLAIMS (ARTICLE 19)

1. Device converting thermal energy into kinetic one, related to the group of machines using four-phase basic thermodynamic cycles and converting thermal energy into kinetic one by means of an available outside heat source. characterized by the fact that it uses rarefied gas in a novel three-phase cycle (Fig.1), of which the first phase is a spontaneous isothermal gas aggregation (0----1), equivalent to ideal isothermal compression, the second phase is an adiabatic expansion (1----2), producing work (eg via a gas turbine (5)) at the expense of the internal thermal energy of the gas and the third one is an isobaric expansion (2----0), where the expanding gas is reheated (eg via a heat exchanger (6)), while cooling the ambient air (7).

Phase (0----1) is accomplished when the gas passes through numerous special slots (26) of microscopic cross sections comparable to the mean free path of the molecules, with diverging flat surfaces and of considerable length (19), grouped together in small parallel modules.(13). The slots allow the gas to take advantage of a peculiar property of the molecular layer adsorbed upon the inner walls of the slots, which layer slightly diverts the (normally) uniform rebound of the molecules towards directions more close to the perpendiculars to the inner surfaces, with the net result that a small but discrete amount of gas is passing through the slots in the diverging direction sponaneously, achieving an aggregated output.(higher pressure).

2. Device as set forth in claim 1, in which the pressure of the gas, during phase (0----1), is maintained in the range favouring the formation of a maximum adsorption layer and also the temperature, during the isobaric expansion(2----0), is kept below the ambient one, in order that said device may use the ambient air as the outside heat source.. .

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